(No Model.)

G. H. LITTLEWOOD & O. D. PHILLIPS.

CAN COVER AND LOCK.

No. 422,600. Patented Mar. 4, 1890.

Fig. 1.

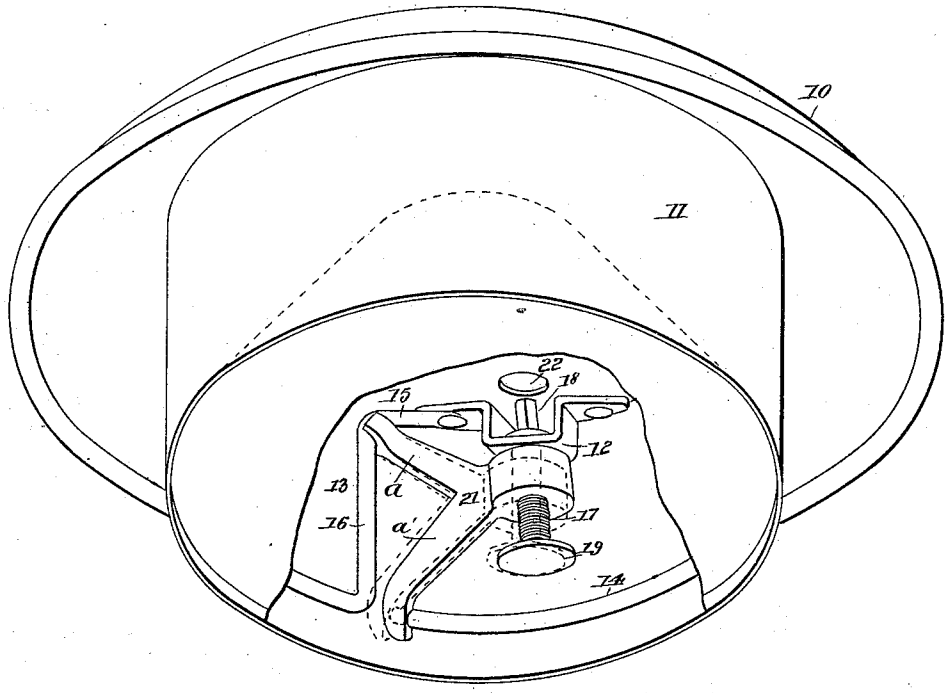


Fig. 2.

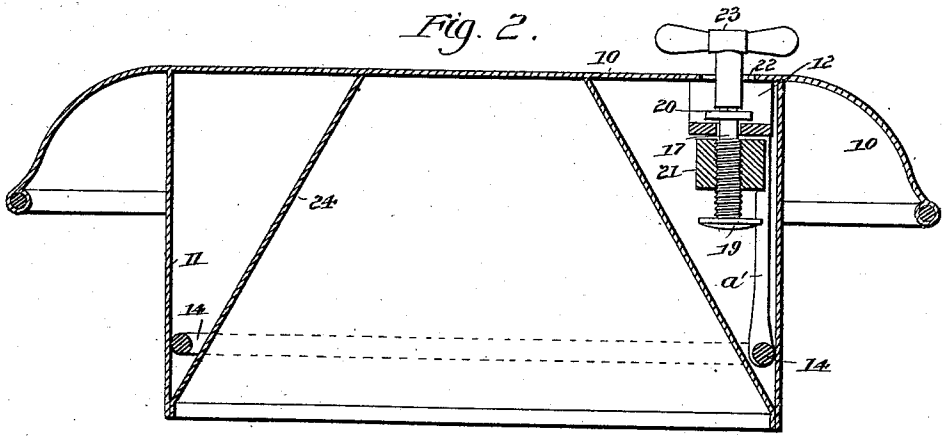
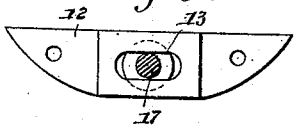


Fig. 3.



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GEORGE H. LITTLEWOOD AND ORSON DEWITT PHILLIPS, OF LISLE, NEW YORK; SAID PHILLIPS ASSIGNOR TO SAID LITTLEWOOD.

CAN-COVER AND LOCK.

SPECIFICATION forming part of Letters Patent No. 422,600, dated March 4, 1890.

Application filed April 27, 1889. Serial No. 308,858. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. LITTLEWOOD and ORSON DEWITT PHILLIPS, both of Lisle, in the county of Broome and State of New York, have invented a new and Improved Can-Cover and Lock for the Same, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in covers for cans, especially adapted for use in connection with milk-cans; and the invention further relates to a lock for said covers.

The object of the invention is to provide a means whereby when the cover is upon the can-body the flange of the cover can be forced to a firm frictional contact with the neck of the can-body and firmly locked thereto.

The invention has for its further object to provide a device for expeditiously accomplishing this result from the exterior of the cover, and also to so protect the device utilized that the milk or other contents of the can cannot gain access to the said device even when the said can is turned bottom up.

The invention consists in the combination, with a flanged lid, of a spring encircling the flange and means for contracting and expanding the said spring, as will be hereinafter described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the cover, partly broken away. Fig. 2 is a central vertical section through the said cover, and Fig. 3 is a detail view of the bracket employed in connection with the cover and a transverse section of the threaded post passing through the said bracket.

The can-cover comprises a body 10, which may be of any desired contour, preferably circular, having attached to its under face a downwardly-extending annular flange 11, the body of the cover being adapted to overhang the said flange.

Upon the under face of the body 10, within the flange and adjacent thereto, an essentially U-shaped bracket 12 is secured, having produced in its-bow section a longitudinal slot 13, as best illustrated in Fig. 3.

A spring 14 is made to encircle and to contact with the inner face of the flange 11 at or near the bottom of the same, which spring is made, preferably, in rod form, one end being rigidly secured to one extremity of the bracket 12, as illustrated in Fig. 1. The spring is carried horizontally outward from the bracket, as illustrated at 15, and then perpendicularly downward, as shown at 16 in Fig. 1, and from thence the said spring is made to contact with the inner face of the flange concentrically with the bottom of the same, and the free end of the said spring is stopped a slight distance from the lower bend in its attached extremity.

Through the slot 13 in the bracket a post 17 is passed downward, the upper end of said post being made rectangular, as illustrated at 18 in Fig. 1, to receive a key, and that portion of the post below the bracket is threaded and made to terminate in a head or button 19. That portion of the post passing through the slot in the bracket is preferably reduced and circular in cross-section, as shown in Figs. 2 and 3, whereby a lower shoulder is formed at the commencement of the thread, which prevents the post from being drawn upward through the slot in the bracket, and a collar 20 upon the post above the bracket prevents the former from being drawn downward through the latter. This construction is clearly shown in Fig. 2.

Upon the threaded section of the post 17 an angled arm 21 is held to travel, the body of which arm is provided with a bore interiorly threaded to receive the post, and its upper member *a* at its extremity is bifurcated to embrace the spring 14 at the intersection of the vertical section 16 with the horizontal section 15, as illustrated in Fig. 1.

The lower member *a'* of the arm 21 is preferably slightly curved at its extremity to extend essentially perpendicularly downward, and the said curved extremity is rigidly attached to the lower extremity of the spring.

An aperture 22 is produced in the cover-body 10 immediately over the rectangular portion of the post, through which any suita-

ble form of key 23 may be entered to turn the said post in locking and unlocking the cover upon the can.

In order that the contents of the can to which the cover is to be applied may not under any circumstances be brought in contact with the mechanism above described, we introduce within the flange of the cover a preferably conical shell 24, which shell at its lower end is soldered or otherwise securely fastened to the lower edge of the flange, and at its upper end the said shell is secured in like manner to the under surface of the body of the cover, as best shown in Fig. 2.

When the arm 21 is in the position shown in dotted lines, the spring is in its normal position and bears but lightly upon the flange 11. When the arm is in this position, the cover is placed upon the can. To lock the cover, the key 23 is placed upon the post and the said post is revolved in a direction to cause the body of the arm to travel upward thereon essentially to a contact with the bracket. When the arm is thus turned upward, the member *a* acts as a fulcrum for the arm, as it bears firmly against the upper bend of the spring. Thus the lower member *a'* is carried laterally away from the lower bend in the spring, and lateral pressure is thereby brought to bear upon the spring, expanding the same and causing it to contact firmly with the inner face of the flange and force the said flange to a secure and positive frictional contact with the inner face of the can-neck. This lateral movement of the arm as it is carried upward is permitted by reason of the post moving loosely in the slot 13 of the bracket. Thus when the arm is manipulated to expand the spring the post will occupy a diagonal position with relation to the vertical axis of the can-cover, as illustrated in positive lines in Fig. 1.

It will be observed that the spring when expanded bears equally upon almost the entire inner circumference of the flange, and the power of the arm upon the spring is such that the cover is so tightly clamped to the body of the can that it cannot be removed or turned without permitting the spring to contract.

When a cover is constructed as herein described, it forms, when placed upon a can, an air-tight seal, as the flange must of necessity bind equally at all points upon the neck of the can.

We desire it to be distinctly understood that while the mechanism shown for contracting and expanding the spring is preferred, yet other equivalent devices may be substituted therefor without departing from the spirit of the invention. It will be also understood that to remove the cover from the can the post is turned in a direction to cause the arm to travel down thereon, whereupon the lower member *a'* of the said arm is brought to the position illustrated in dotted lines in Fig. 1 and the tension upon the spring removed. The post will now occupy the perpendicular position shown in Fig. 2.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with a flanged can-cover, of an expansible device arranged within the cover and engaging the inner face of the flange thereof, whereby provision is made for expanding the flange after the cover has been applied, substantially as and for the purpose specified.

2. As an improved article of manufacture, a flanged can top or cover provided with a spring capable of lateral expansion and contacting with the inner face of the flange, substantially as shown and described.

3. As an improved article of manufacture, a flanged can top or cover provided with a spring capable of lateral expansion and contacting with the inner face of the flange, an arm capable of vertical and lateral movement secured to the said spring and serving to forcibly expand the same against the flange, and means for operating the arm, substantially as and for the purpose specified.

4. As an improved article of manufacture, a flanged can top or cover provided with a spring capable of lateral expansion contacting with the inner face of the flange and secured to the cover at one end, an angled arm capable of vertical and lateral movement, having one member secured to the other end of the said spring, and means for operating said arm, substantially as and for the purpose specified.

5. As an improved article of manufacture, a flanged can top or cover provided with a spring capable of lateral expansion contacting with the inner face of the flange and secured to the said cover at one end, an angled arm having one member capable of bearing upon the spring at or near its attachment to the cover-body, the other member being attached to the opposite end of the spring, and a threaded post carried by the can-top, passing through said arm, and capable of lateral movement, substantially as shown and described.

6. The combination, with a flanged can-cover, of a spring contacting with the inner face of the said flange and means, substantially as shown and described, for expanding and contracting the said spring, as and for the purpose specified.

7. The combination, with a flanged can-cover, of a spring contacting with the inner face of the said flange, having one end secured to the body of the cover, an angled arm having one member bifurcated for contact with the said spring near its point of attachment to the cover, the other member of said arm being attached to the opposite end of the spring, a threaded post carried by the can-top, passing through the said arm and capable of lateral movement, and a shell attached to the flange and body of the cover

and incasing the said spring and attached mechanism, substantially as and for the purpose specified.

8. The combination, with a flanged can top or cover, of a spring contacting with the inner face of the flange and secured to the body of the cover at one end, an angled arm having one of its members bearing upon the spring near its point of attachment to the cover and the other member attached to the opposite end of the spring, a bracket provided with a longitudinal slot secured to the cover, a threaded post passing through the said arm and the slot in the bracket, being retained by the latter, a shell incasing the said spring and attached mechanism, and means, substantially as shown and described, for turning the said post, as and for the purpose specified.

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